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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,051	12/11/2003	Heu-Gon Kim	21C-0103	7822

7590 09/19/2005

CANTOR COLBURN LLP
55 Griffin Road South
Bloomfield, CT 06002

EXAMINER

LEE, GUIYOUNG

ART UNIT	PAPER NUMBER
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2875

DATE MAILED: 09/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/733,051	KIM ET AL.	
	Examiner	Art Unit	
	Guiyoung Lee	2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 14-22 and 28 is/are rejected.
- 7) ☒ Claim(s) 9-13 and 23-27 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 5, 14-17, and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Sawayama (US 6,048,071).
4. Re claims 1 and 15: Sawayama discloses a backlight assembly having a first lamp unit (26 in Fig. 1) that generates light; and a light guide plate (24) including: a light exiting surface (28); a light reflecting surface (17) that reflects a light toward the light exiting surface; and side surfaces (25) that connect the light exiting surface and the light reflecting surface, the side surfaces including a first light incident surface, the first lamp unit being disposed adjacent to the first light incident surface, and the first light incident surface being inclined inwardly from the light exiting surface (See 25 in Fig. 1). Further, Sawayama discloses first equation ($\Theta_c = \arcsin(n_2/n_1)$, see col. 2, line 34) and second equation ($\Theta_{c2} \leq 90^\circ - \beta - \gamma$, see col. 4, line 61) for the inclination angle of the light incident surface. If γ is equal to Θ_{c2} , then the inclination angle β is smaller than or substantially equal to $(90 - 2 \sin^{-1} (n_2/n_1))^\circ$. Therefore, claims 1 and 15 are anticipated by Sawayama.

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5. Re claims 2-3 and 16-17: Sawayama discloses an air between the lamp and light incident surface, and the light guide plate comprises PMMA (col. 12, line 30).

6. Re claims 5, 14, and 28: Sawayama discloses two lamp electrodes (11a and 11b), a lamp reflector (27), optical sheets (19), a reflection plate (17), and a receiving container (20).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 4, 6-8, and 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sawayama as applied to claims 1 and 15 above, and further in view of Cha et al. (US 6,779,902 B2).

9. Re claims 4, 6-8 and 18-22: Sawayama does not disclose a second light incident surface that meets the equation in claims 1 and 15. However, a second incident surface is mere duplication of the first light incident surface, and Cha teaches a backlight assembly having two light incident surfaces (see Fig. 6). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Sawayama's light guide to have two light incident surfaces as Cha taught in order to enhance the brightness of the display unit. Further Cha teaches three reflecting plates connected each other, and two lamp is disposed in the reflector housing (Fig. 14).

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Allowable Subject Matter

10. Claims 9-13 and 23-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: With regard to claims 9 and 23, the prior art of record fails to disclose a backlight assembly, configured as claimed, wherein a first lamp reflecting plate being in parallel with the light exiting surface; a second lamp reflecting plate facing the first light incident surface, the first lamp being interposed between the light incident surface and the second lamp reflecting plate, the second lamp reflecting plate being connected to the first lamp reflecting plate to form a first connection portion; a third lamp reflecting plate facing the first light incident surface, the second lamp being interposed between the light incident surface and the third lamp reflecting plate; a fourth lamp reflecting plate connecting the second lamp reflecting plate and the third lamp reflecting plate; and a fifth lamp reflecting plate being in parallel with the light reflecting surface, the fifth lamp reflecting plate being connected to the third lamp reflecting plate to form a second connection portion. Claims 10-13 and 24-27 depend from claim 9 and 23.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guiyoung Lee whose telephone number is 571-272-2374. The examiner can normally be reached on M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on 571-272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LGY



Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800